

CASE REPORT

Stoma prolapse handmade repair under local anesthesia with variation of Altemeier method in severe patients: a case report and review of the literature

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Abstract

Stoma prolapse represents one of the most common late complications, occurring in 1–16%. Final rate depends on systematic follow up of the patient and the primary technique. A 49-year-old male patient presented in the Emergency Department, complaining about stoma prolapse, pain and stoma care difficulties. On admission, his colostomy protruded ~20 cm from the skin. The symptoms were local pain and psychological stress. The prolapse was repaired successfully with a simple revision procedure under local anesthesia, by resecting the prolapsed part of the bowel and reconstruction of stoma. Prolapsed part of the colon is removed and the remaining end of the colon is fixated to the abdominal wall. Colorectal surgeons must familiarize with management of stoma complications. Stoma revision under local anesthesia is an alternative and safe method.

INTRODUCTION

Intestinal stomas have long been used for fecal diversion and remain an important tool for both general and colorectal surgeon. They are considered a vital element either as a permanent means for stool evacuation or as a temporary bridge in order to treat complicated abdominal problems or to heal more distal anastomoses [1]. However, this simple operation is associated with a high complication total rate bigger than 70% and the mean operative time is 163.2 min [2].

Anastomotic leakage is one of the most serious complications of colorectal surgery. This situation is associated with worse long-term and overall survival. Prophylactic diverting

stomas are in routine use in a number of very low anterior rectal resections as it protects against leakage [3].

Distal anastomosis after a low anterior resection, restorative proctocolectomy, Hartmann's procedure for fecal peritonitis, locally advanced rectal cancer and anal Crohn's disease are situations—where temporary stoma is important [4]. However, it may have psychological, medical or surgical complications.

Stoma prolapse is a common late complication, occurring in 1–26% of colostomies. To a certain extent, the final rate depends on systematic follow up of the patient [5].

Symptomatic or progressive stoma prolapse requires surgical repair, through laparotomy or laparoscopy approach.

Received: December 10, 2016. Accepted: January 23, 2017.

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Strangulation of the intestine may lead to edema and necrosis and require emergency surgery. The kind of the procedure depends on the prolapse stage, patient comorbidities and the experience of the surgical team [6].

CASE REPORT

We herein report the case of a 49-year-old male with T3N0M0 anal squamous cell carcinoma and severe hypertrophic cardiomyopathy. Patient was admitted to our department due to stoma prolapse, as his colostomy protruded ~20 cm from the skin. Swelling signs (marked redness, erosion and edema) and pain were found during clinical examination. The patient complained about stoma care difficulties during the last 2 months. Laboratory

findings were unremarkable. The levels of tumor markers (CEA, CA 19-9, CA 15-3) were within normal ranges. White blood cells were 15 300 ($4000\text{--}11\,000\text{ mm}^{-3}$), hematocrit was found 35.6% (40–51% for man) and C reaction protein was 1.7 (0–0.8 mg/100 ml). Computed tomography (CT) scans were without pathological findings or indirect points of cancer recurrence. We decided to reconstruct the stoma by surgical approach under local anesthesia due to the severe patient medical history (Fig. 1).

The patient was placed in the supine position, under local anesthesia with the use of 10 ml Xylocaine® 2% solution (lidocaine HCl, USP) and 10 ml Ropivacaine 0.75% solution (Naropine 7.5 mg/ml, AstraZeneca) in 1:1 proportion. We use anesthesia solution for the skin around the stoma and for the colon serosa. Full thickness incision was made on the prolapsed bowel under local anesthesia. Two layers of the prolapsed bowel wall were identified and circumferentially incised. Prolapsed colon was dissected, and vessels were ligated (Fig. 2). Prolapsed part of colon was removed while the inner colon part was fixed on the abdominal wall with absorbable sutures (Fig. 3).



Figure 1: Incision on the prolapsed bowel.



Figure 3: Prolapsed colon was removed and inner colon part was fixed on the abdominal wall.



Figure 2: Prolapsed colon dissected with vessels ligation.



Figure 4: New stoma.

Table 1: Reported cases with local revision

Year	Journal	Authors	Number of patients	Ostomy type	Method	Outcomes	Cost
2003	Chirurgia Italiana	Trentin G, et al.	1	Mucus fistula	Circular Stapler	No	High
2004	Techniques in Coloproctology	Maeda K, et al.	2	Loop colostomy	Linear Stapler	No	High
2005	Digestive Surgery	Hata F, et al.	6	Ileostomy	Linear Stapler	No	High
2005	Techniques in Coloproctology	Tepetes K, et al.	1	Loop colostomy	Linear Stapler	Recurrence	High
2010	Techniques in Coloproctology	Ferguson HJM, et al.	1	End colostomy	Straight Stapler	No	High
2012	Techniques in Coloproctology	Masumori K, et al.	2	Distal limb of loop colostomy	Linear Stapler	1 Recurrence	High
2016	Ann Med Surg (Lond)	Monette M, et al.	1	Transverse loop colostomy	Linear Stapler	No	High

Eversion of the new stoma prevents the development of the stricture at the anastomotic site (Fig. 4). Local correction of extreme stoma prolapse was constructed. The postoperative period was uneventful. Postoperative period was without significant complication and the patient was discharged on the third postoperative day. On 6- and 12-, 18- and 24-month follow-up, patient remains without recurrence.

DISCUSSION

Stoma prolapse can be presented either as fixed, when the stoma bud is fixed too far from the abdominal wall or as sliding, which reduces spontaneously. The clinical symptoms may not be intense, although in a number of cases can reach to incarceration and strangulation in the case of the sliding prolapse.

There is a variety of risk factors, which include an increase of intra-abdominal pressure, obesity, pregnancy, constipation, chronic coughing and perhaps old age and gender. The main theory is related to unfixed mesentery that leads to protrusion of the mobile intestine along with its mesentery via the stoma, followed by insertion of the intestine proximal or distal to the stoma site. The treatment can vary according to the type of the prolapse and consists of conservative management or surgical modification [3–5]. Surgical techniques classified into abdominal or local approaches. Review of local revision cases are summarized in Table 1. In the most cases of stoma prolapsed, there is no need of intervention of stoma prolapse unless complications occur, and, surgical approach can be planned according to the case.

In case of asymptomatic or minimally symptomatic patients, the stoma can be treated conservatively. However, when the prolapse is severe or the patient has difficulties in stoma care, surgical treatment is urgent. In rare cases, the prolapsed stoma can be incarcerated and strangulated. If gangrene occurs, there is urgent need of surgical intervention with laparotomy [2, 6]. When prolapse is associated with parastomal hernia, surgery can be planned electively [7]. Patients who underwent adjuvant chemotherapy have a higher rate of stoma complications in comparison with patients who did not receive any chemotherapy. Observation with CT and colonoscopy are essential in order to forestall a recurrence of main disease [8]. In that occasion only laparotomy can be chosen as a therapeutic means. However, it is importance to take into account the clinical history and the comorbidities of the patient. In high-risk patients with critical age and high ASA score, it is preferable to follow a more conservative than an invasive technique [7, 9].

Recurrent colostomy prolapse addressed by elective colectomy and end ileostomy. In cases where hernia occurs, the intervention should be decided according to the best treatment method for the hernia [7].

In our case, we decided to follow a surgical approach under local anesthesia. Prolapsed part of the colon is removed and the remaining end of the colon is fixated with sutures in the abdominal wall. The revision with variation of Altemeier method under local anesthesia for cases with prolapsed stoma, in patients with comorbidities is easy, quick and safe technique without complications. Our approach is cost effectiveness, while in all previous reports (Table 1), Stapler devices have been used.

CONFLICT OF INTEREST STATEMENT

None declared.

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